

Amendments to Claims

1. (Currently amended) A PANI-PAAMPSA film comprising a PANI-PAAMPSA complex of polyaniline in the emeraldine salt form (PANI) with poly(2-acrylamido-2 methyl-1-propanesulfonic acid) (PAAMPSA) as a counterion, wherein the complex is formed by the polymerization of aniline in the presence of PAAMPSA, and at least one water dispersible and/or water-soluble host polymer blended with the PANI-PAAMPSA complex.
2. (Original) The film of Claim 1, having an electrical resistivity greater than 10^2 ohm-cm.
3. (Canceled)
4. (Currently amended) The film of Claim 1, wherein ~~the~~ at least one water dispersible and/or water-soluble host polymer is polyacrylamide (PAM), PAAMPSA, poly(acrylic acid) (PAA), poly(styrenesulfonic acid), poly(vinyl pyrrolidone) (PVPd), acrylamide copolymers, cellulose derivatives, carboxyvinyl polymer, poly(ethylene glycols), poly(ethylene oxide) (PEO), poly(vinyl alcohol) (PVA), poly(vinyl methyl ether), polyamine, polyimines, polyvinylpyridines, polysaccharide, polyurethane dispersion, ~~and~~ or combinations thereof.
5. (Currently amended) A method of forming the film of Claim 1, comprising the steps of:
providing a substrate;
providing an aqueous dispersion/solution comprising ~~the~~ at least one water dispersible and/or water-soluble host polymer blended with the PANI-PAAMPSA complex; and
depositing the aqueous dispersion/solution onto the substrate to form the film.
6. (Canceled)
7. (Currently amended) The method of Claim 5, wherein ~~the~~ at least one water dispersible and/or water-soluble host polymer is polyacrylamide (PAM), PAAMPSA, poly(acrylic acid) (PAA), poly(styrenesulfonic acid), poly(vinyl pyrrolidone) (PVPd), acrylamide copolymers, cellulose derivatives, carboxyvinyl polymer, poly(ethylene glycols), poly(ethylene oxide) (PEO), poly(vinyl alcohol) (PVA), poly(vinyl methyl ether), polyamine,

polyimines, polyvinylpyridines, polysaccharide, polyurethane dispersion, ~~and~~ or combinations thereof.

8. (Currently amended) An electronic device comprising a first and second electrodes, and a PANI-PAAMPSA film between said first and second electrodes, said PANI-PAAMPSA film comprising a PANI-PAAMPSA complex of polyaniline in the emeraldine salt form (PANI) with poly(2-acrylamido-2 methyl-1-propanesulfonic acid) (PAAMPSA) as a counterion, wherein the complex is formed by the polymerization of aniline in the presence of PAAMPSA, and at least one water dispersible and/or water soluble host polymer blended with the PANI-PAAMPSA complex.

9. (Original) The electronic device of Claim 8, wherein the film has an electrical resistivity greater than 10^2 ohm-cm.

10. (Canceled)

11. (Currently amended) The electronic device of Claim ~~10~~ 8, wherein ~~the~~ at least one water dispersible and/or water-soluble host polymer is polyacrylamide (PAM), PAAMPSA, poly(acrylic acid) (PAA), poly(styrenesulfonic acid), poly(vinyl pyrrolidone) (PVPd), acrylamide copolymers, cellulose derivatives, carboxyvinyl polymer, poly(ethylene glycols), poly(ethylene oxide) (PEO), poly(vinyl alcohol) (PVA), poly(vinyl methyl ether), polyamine, polyimines, polyvinylpyridines, polysaccharide, polyurethane dispersion, ~~and~~ or combinations thereof.

12. (Currently amended) The electronic device of Claim ~~11~~ 8, wherein the film has an electrical resistivity greater than 10^4 ohm-cm.

13. (Currently amended) A light-emitting diode comprising a first and second electrodes, and a PANI-PAAMPSA film, said PANI-PAAMPSA film comprising a PANI-PAAMPSA complex of polyaniline in the emeraldine salt form (PANI) with poly(2-acrylamido-2 methyl-1-propanesulfonic acid) (PAAMPSA) as a counterion, wherein the complex is formed by the polymerization of aniline in the presence of PAAMPSA, and at least one water dispersible and/or water soluble host polymer blended with the PANI-PAAMPSA complex.

14. (Original) The light-emitting diode of Claim 13, wherein the film has an electrical resistivity greater than 10^2 ohm-cm.

15. (Canceled)

16. (Currently amended) The diode of Claim ~~15~~ 13, wherein ~~the~~ at least one water dispersible and/or water-soluble host polymer is polyacrylamide (PAM), PAAMPSA, poly(acrylic acid) (PAA), poly(styrenesulfonic acid), poly(vinyl pyrrolidone) (PVPd), acrylamide copolymers, cellulose derivatives, carboxyvinyl polymer, poly(ethylene glycols), poly(ethylene oxide) (PEO), poly(vinyl alcohol) (PVA), poly(vinyl methyl ether), polyamine, polyimines, polyvinylpyridines, polysaccharide, polyurethane dispersion, ~~and~~ or combinations thereof.

17. (Currently amended) The diode of Claim ~~16~~ 13, wherein the film has an electrical resistivity greater than 10^4 ohm-cm.

18. (Currently amended) The diode of Claim ~~16~~ 13, wherein the film has an electrical resistivity of greater than 10^5 ohm-cm.

19. (Previously presented) The diode of Claim 13, wherein the film is disposed between a light-emitting polymer and a high work function electrode.

20. (Previously presented) The diode of Claim 19, wherein:

the high work function electrode comprises polyaniline; poly(3,4-ethylenedioxythiophene); indium tin oxide; an oxide of a metal from Group IIA (Be, Mg, Ca, Sr, Ba, Ra); an oxide of metals from Group IIIA selected from B, Al, Ga, and Tl; or an oxide of metals from Group IVA (C, Si, Ge, Sn, Pb); and

wherein the device further comprises a low work function electrode selected from alkaline earth metals, alloys of alkaline earth metals, and alkaline earth metal oxides.

21. (Canceled)

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22. (Canceled)

23. (Canceled)